

CLAIMS:

1. An electronic tongue for the detection of ozone, based on voltammetry, comprising at least one working electrode and a counter electrode, wherein the working electrode(s) is(are) made of one or more of Rh, Pt, Au, Os, Ru, Ni, Ti, Re, or alloys thereof, or alloys thereof with other metals.

2. The electronic tongue as claimed in claim 1, having two or more working electrodes.

3. The electronic tongue as claimed in claim 1, wherein the number of working electrodes is four to six, preferably four.

4. The electronic tongue as claimed in claim 2 or 3, wherein the electrodes are made of different materials.

5. The electronic tongue as claimed in any preceding claim, comprising a rod shaped support member wherein electrodes are imbedded, such that a surface portion of each electrode is exposed.

6. The electronic tongue as claimed in any preceding claim, comprising an auxiliary electrode provided as a ring electrode on the periphery of said support member.

7. The electronic tongue as claimed in any of claims 1-4, comprising an essentially planar plate member of an inert material, e.g. ceramic, on which the working electrodes are provided as strips of metal.

8. The electronic tongue as claimed in any of claims 1-4, wherein said working electrodes and said counter electrode are provided inside a tube segment forming part of a circulation system of a processing plant in which it is desired to monitor the presence or concentration of ozone, and wherein said electrodes have electrical through-connections through said tube segment at least at one end of each electrode, for connection to external equipment.

9. The electronic tongue as claimed in any of the preceding claims, comprising auxiliary electrodes for measuring conductivity.

10. The electronic tongue as claimed in any of the preceding claims, wherein said 5 working electrode(s) is(are) made from Rh.

11. An ozone detection system based on voltammetry, for detecting the presence and/or concentration of ozone in a liquid sample, comprising
at least one working electrode (12) made of one or more transition metals or Au,

10 or alloys thereof, or alloys thereof with other metals;

a counter electrode (16);

a programmable pulse generator (20) capable of applying a predetermined sequence of energizing pulses to said working electrode(s) (12);

15 a recording device for recording the output from said working electrode generated in response to said applied pulse sequence;

a sampling device for sampling values of said output at predetermined intervals;

a memory for storing said sampled values in a matrix;

a processing unit (PC) for performing a multivariate analysis of said data matrix;

and

20 a display device for displaying the result of said multivariate analysis.

12. The ozone detection system as claimed in claim 11, wherein said working electrode(s) is(are) made from Rh.

25 13. The ozone detection system as claimed in claim 11 or 12, wherein said electrodes are provided on-line in a processing plant.

14. The ozone detection system as claimed in claim 11 or 12, wherein said 30 electrodes are made of one or more of Rh, Pt, Au, Os, Ru, Ni, Ti, Re, or alloys thereof, or alloys thereof with other metals.

15. An electronic tongue for the detection of ozone, based on voltammetry, comprising two or more working electrodes and a counter electrode, wherein the working electrode(s) is(are) made of at least one element selected from the group consisting of Rh, Pt,

Au, Ru, or alloys thereof, or alloys thereof with other metals, wherein the electrodes are made of different materials.